

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/25272

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : B29C 47/00; D01D 5/12; D01F 8/04

US CL : 264/108,177.2,172.12; 425/66,

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 264/108,177.2,172.12; 425/66,

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Science Direct, search terms: carbon nanotube, fiber

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	Thostenson, E.T and T.-W. Chou, Aligned multi-wall carbon nanotube-reinforced	1,2,4,5,7-12,15-18
---	composites: processing and mechanical characterization, Journal of Physics D: Applied	-----
Y	Physics, Vol. 35 (2002) L77-L80, especially page L78 and L79, left column.	3,6,13-14
X	Haggenmueller, R., H.H. Gommans, A.G. Rinzier, J.E. Fischer, K.I. Winey, Aligned	15-17
---	single-wall carbon nanotubes in composites by melt processing methods, Chemical Physics	-----
Y	Letters, 330 (2000) pages 219-225, especially Method 2 on pages 220-222.	1-14,18,19
Y	US 5,993,922 A (Babrowicz) 30 November 1999 (30.11.1999), Figure 1 and column 5,	1-14,18,19
	lines 45-55.	
Y	US 2002/0058780 A1 (Moses) 16 May 2002 (16.05.2002), page 3, examples 4-6	3,13
Y	Sinnott, S.B., O.A. Shenderova, C.T. White, D.W. Brenner, Mechanical Properties of	19
	Nanotube Fibers and Composites Determined from Theoretical Calculations and	
	Simulations, Carbon, 36 (1-2), (1998) pg 1-9, especially Figure 1.	



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&"

document member of the same patent family

Date of the actual completion of the international search

22 December 2004 (22.12.2004)

Date of mailing of the international search report

03 JAN 2005

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Authorized officer

Michael Colaianni

Telephone No. (571) 272-1100

Jean Prov
Paralegal

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US04/25272

C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	Kumar, S., H. Doshi, M. Srinivasarao, J.O. Park, D.A. Schiraldi, Fibers from polypropylene/nano carbon fiber composites, Polymer, 43 (2002) 1701-1703, especially page 1702.	1-19
A	Andrews, R., D. Jacques, A.M. Rao, T. Rantell, F.. Derbyshire, Y. Chen, J. Chen, R.C. Haddon, Nanotube composite carbon fibers, Applied Physics Letters, 75 (9), (1999) 1329-1331, especially Figure 1 and page 1330, left column.	1-19
A	Kinloch, I.A., S.A. Roberts, A.H. Windle, A rheological study of concentrated aqueous nanotube dispersions, Polymer, 43 (2002) 7483-7491, especially page 7490, left column.	1-19
A	US 2002/0113335 A1 (Lobovsky) 22 August 2002 (22.08.2002), Examples 1 and 5.	1-19